

Mineral Industry Surveys

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SILICON IN APRIL 2003

In April 2003, domestic production of silicon ferroalloys plus metal, excluding silvery pig iron, was estimated to have decreased by 12% compared with the corresponding figure for the previous month, according to the U.S. Geological Survey. Domestic shipments decreased by about 17% compared with those of March 2003. Producer stocks decreased by 7% from those of March 2003. All domestic data for ferrosilicon have been combined to avoid disclosing company proprietary data.

The March 2003 trade data included in this report indicated that the amount of silicon metal imports were about the same as those of February 2003. Ferrosilicon imports, on a gross weight basis, decreased by 36% compared with those in the previous month, owing primarily to significant decreases in all trade categories except "ferrosilicon, 80% - 90% silicon" and "magnesium ferrosilicon." On a gross weight basis, ferrosilicon exports increased by 16% compared with those of February 2003, with significant increases in the trade category "other ferrosilicon." Silicon metal exports increased by 68% compared with those in the previous month, owing to significant increases in all trade categories, especially "silicon metal, 99.00% - 99.99% silicon."

In late April, Elkem ASA announced its plans to reduce staffing by 30% at its silicon metal plant in Alloy, WV, and its former divisional office in Pittsburgh, PA, by the first of August (Elkem ASA, 2003¹). The company reported the plant recorded a weak result for the first quarter in 2003 due to technical problems caused by flooding and continued problems with the introduction of new electrode technology.

Update

Dow Corning Corp. purchased silicon metal producer, Simcala Inc., in June for \$30 million after receiving bankruptcy court approval. Simcala, located in Mt. Meigs, AL, reported it would continue to operate under its current name and at current production levels (American Metal Market, 2003).

¹A reference that includes a section mark (§) is found in the Internet Reference Cited section.

Degussa AG announced that it plans to build a fumed silica plant in Map Ta Phut, Thailand, adjacent to a siloxanes complex being built by Asia Silicone Monomer (joint venture between GE Toshiba Silicones and Shin-Etsu Chemical). The company expected the plant, which will have an annual production capacity of several thousand tons, to be operational in the first-half of 2004. The plant will be operated by a newly established Degussa subsidiary, Thai Aerosil Co. (Chemical Week, 2003).

On June 18, the U.S. Court of International Trade (CIT) remanded for the second time back to the U.S. International Trade Commission's (ITC) its determination to eliminate all penalty duties on ferrosilicon imports from Brazil, China, Kazakhstan, Russia, Ukraine, and Venezuela imposed in 1994 so additional evidence could be provided to support the determination (Elkem Metals Co. v. United States, No. 99-10-00628, CIT Slip Opinion 2003-66).

Tennessee Alloys (AIMCOR) reportedly shut its ferrosilicon furnace down at its Bridgeport, AL, plant for a period of 6 to 8 weeks. The furnace has an annual production capacity of about 27,000 t (Platts Metal Week, 2003).

Globe Metallurgical Inc. petitioned the New York Southern District bankruptcy court for approval to auction its Springfield, OR, silicon metal plant on August 15. The plant has been shut down since 2001. The company estimated the value of the plant at \$2 million (Ryan's Notes, 2003b).

The European Commission voted in late June to impose antidumping duties on silicon metal imports from Russian producers Sual-Kremny-Ural Ltd. (25.2%) and Bratsk Aluminum Smelter (24%). A formal announcement of the preliminary duties was expected in July 2003 (Ryan's Notes, 2003a).

References Cited

- American Metal Market, 2003, Dow Corning gets court OK to purchase Simcala for \$30M: American Metal Market, v. 111, no. 24-3, June 18, p. 6.
Chemical Week, 2003, Degussa builds fumed silica plant in Thailand: Chemical Week, v. 18, no. 20, June 4, p. 17.
Platts Metals Week, 2003, Tennessee Alloys ferrosilicon furnace down—Source: Platts Metals Week, v. 74, no. 25, June 23, p. 14.
Ryan's Notes, 2003a, EC agrees to impose duties on Russian Si: Ryan's Notes, v. 9, no. 26, June 30, p. 1.

Ryan's Notes, 2003b, Globe's Springfield plant to be auctioned: Ryan's Notes, v. 9, no. 25, June 23, p. 2.

Internet Reference Cited

Elkem ASA, 2003 (April 30), Elkem's 1. quarter results 2003, accessed July 8, 2003, at URL <http://www.elkem.com>.

Prices, cents per pound, silicon content

	<u>50% Ferrosilicon¹</u>	<u>75% Ferrosilicon²</u>	<u>Silicon Metal²</u>
April 2	51.0-56.0	47.0-49.0	60.0-62.0
April 9	51.0-56.0	47.0-49.0	60.0-62.0
April 15	49.0-51.0	47.0-49.0	60.0-62.0
April 23	49.0-51.0	48.0-47.5	60.0-62.0
April 30	42.0-47.0	48.0-47.5	60.0-62.0

¹Source: Ryan's Notes, North American transaction price.

²Source: Platts Metals Week, dealer import price.

TABLE 1
U.S. PRODUCTION, SHIPMENTS, AND PRODUCER STOCKS OF SILICON ALLOYS AND METAL IN 2003^{1, 2, 3}

(Metric tons)

Material	Gross production ⁴		Net shipments		Stocks, April 30
	April	Year to date ⁵	April	Year to date ⁵	
Ferrosilicon:					
All grades ^{6, 7}	17,900	70,500	13,300	59,600	29,600
Silicon metal:					
Excludes semiconductor grades	11,100	43,400	10,200	40,200	4,320

¹Data are rounded to no more than three significant digits.

²Includes U.S. Geological Survey estimates.

³Data for silvery pig iron (less than 25% silicon) withheld to avoid disclosing company proprietary data.

⁴Includes in-plant consumption, as in production of magnesium ferrosilicon and other miscellaneous alloys.

⁵Includes revisions to previous months' data.

⁶Ferrosilicon categories were aggregated to avoid disclosing company proprietary data.

⁷Includes miscellaneous silicon alloys.

TABLE 2
U.S. EXPORTS OF FERROSILICON AND SILICON METAL IN MARCH 2003^{1, 2}

(Metric tons, unless otherwise specified)

Country	Gross weight	Contained weight	Value	Year to date		
				Gross weight	Contained weight	Value
Ferrosilicon:						
More than 55% silicon:						
Canada	209	126	\$201,000	778	467	\$752,000
Malaysia	--	--	--	11	8	18,200
Mexico	76	52	100,000	196	126	266,000
Total	286	178	302,000	985	601	1,040,000
Other ferrosilicon:						
Brazil	20	9	25,800	40	18	50,300
Canada	374	187	277,000	821	411	658,000
Italy	--	--	--	16	9	26,300
Korea, Republic of	59	29	60,200	190	95	196,000
Mexico	109	54	113,000	383	191	346,000
Total	562	280	476,000	1,450	723	1,280,000
Total ferrosilicon	848	457	778,000	2,430	1,320	2,310,000
Metal:						
More than 99.99% silicon:						
China	105	XX	2,820,000	267	XX	7,550,000
France	18	XX	432,000	31	XX	740,000
Germany	52	XX	2,130,000	187	XX	6,520,000
Italy	7	XX	666,000	17	XX	1,650,000
Japan	519	XX	22,300,000	1,090	XX	51,700,000
Korea, Republic of	79	XX	2,460,000	169	XX	5,910,000
Norway	149	XX	3,660,000	369	XX	9,100,000
Taiwan	17	XX	576,000	49	XX	1,760,000
Ukraine	13	XX	347,000	27	XX	756,000
United Kingdom	11	XX	1,750,000	40	XX	4,570,000
Other (26 countries)	21	XX	1,730,000	74	XX	5,320,000
Total	993	993 ^e	38,800,000	2,320	2,320 ^e	95,600,000

See footnotes at end of table.

TABLE 2--Continued
U.S. EXPORTS OF FERROSILICON AND SILICON METAL IN MARCH 2003^{1,2}

(Metric tons, unless otherwise specified)

Country	Gross weight	Contained weight	Value	Year to date		
				Gross weight	Contained weight	Value
Metal--Continued:						
99.00% - 99.99% silicon:						
Belgium	--	--	--	4	4	\$5,180
Brazil	61	61	\$139,000	79	78	173,000
Denmark	--	--	--	7	7	9,270
Jamaica	--	--	--	9	9	15,300
Mexico	25	25	35,400	48	47	70,800
Norway	62	62	88,000	146	145	206,000
Panama	--	--	--	2	2	9,500
Singapore	7	7	9,020	7	7	9,020
Taiwan	--	--	--	3	3	7,870
Venezuela	--	--	--	35	35	51,100
Other (2 countries)	--	--	--	2	2	10,500
Total	155	154	271,000	340	337	568,000
Other silicon:						
Canada	66	64	79,100	1,750	1,700	1,820,000
China	--	--	--	37	36	48,400
Germany	36	35	47,500	36	35	47,500
Hong Kong	19	18	25,100	21	20	45,300
Indonesia	--	--	--	8	8	12,700
Japan	50	49	66,100	285	277	436,000
Korea, Republic of	188	182	248,000	188	182	248,000
Mexico	2	2	29,100	23	22	94,800
Netherlands	111	106	617,000	177	169	1,100,000
United Kingdom	14	14	10,100	155	151	157,000
Other (9 countries)	10	10	57,000	25	24	116,000
Total	496	480	1,180,000	2,710	2,630	4,130,000
Total silicon metal	1,650	1,630	40,300,000	5,370	5,290	100,000,000

⁶Estimated. XX Not applicable. -- Zero.

¹Presentation of monthly data is based on the year-to-date quantities (gross weight) of the top 10 countries.

²Data are rounded to no more than three significant digits; may not add to totals shown.

Source: U.S. Census Bureau.

TABLE 3
U.S. IMPORTS FOR CONSUMPTION OF FERROSILICON AND SILICON METAL IN MARCH 2003^{1,2}

(Metric tons, unless otherwise specified)

Country	Gross weight	Contained weight	Value	Year to date		
				Gross weight	Contained weight	Value
Ferrosilicon:						
55% - 80% silicon, over 3% Ca:						
Argentina	20	12	\$22,300	146	95	\$192,000
Brazil	40	23	41,600	213	144	167,000
Canada	--	--	--	41	30	16,400
Mexico	4	3	14,800	8	6	29,600
Total	64	38	78,800	407	276	405,000
55% - 80% silicon, Other:						
Brazil	250	188	160,000	3,370	2,540	1,800,000
Canada	1,120	844	726,000	3,390	2,570	2,080,000
China	3,760	2,830	1,910,000	10,200	7,710	5,160,000
Egypt	--	--	--	1,150	814	583,000
Kazakhstan	--	--	--	4,250	3,260	2,510,000
Norway	458	328	562,000	1,290	944	1,630,000
Russia	1,030	772	532,000	1,800	1,280	922,000
South Africa	--	--	--	1,300	996	703,000
Ukraine	--	--	--	2,560	1,920	1,210,000
Venezuela	2,770	2,080	1,740,000	8,330	8,290 ³	8,410,000
Other (2 countries)	328	220	735,000	745	502	1,690,000
Total	9,710	7,250	6,370,000	38,400	30,800	26,700,000
80% - 90% silicon:						
Canada	19	15	7,420	19	15	7,420
Magnesium ferrosilicon:						
Argentina	167	75	111,000	607	275	425,000
Brazil	997	419	579,000	1,760	765	1,100,000
Canada	286	135	239,000	599	285	506,000
China	541	244	369,000	1,460	658	989,000
France	--	--	--	20	9	21,900
Japan	--	--	--	95	43	128,000
Norway	938	428	752,000	2,690	1,220	2,160,000
Total	2,930	1,300	2,050,000	7,240	3,260	5,330,000
Other ferrosilicon:						
Brazil	--	--	--	116	65	76,900
Canada	589	196	361,000	1,900	643	1,240,000
China	--	--	--	1,160	939	593,000
Russia	--	--	--	39	18	40,600
Total	589	196	361,000	3,220	1,670	1,950,000
Total ferrosilicon	13,300	8,800	8,870,000	49,300	36,000	34,400,000

See footnotes at end of table.

TABLE 3--Continued
U.S. IMPORTS FOR CONSUMPTION OF FERROSILICON AND SILICON METAL IN MARCH 2003^{1,2}

(Metric tons, unless otherwise specified)

Country	Gross weight	Contained weight	Value	Year to date		
				Gross weight	Contained weight	Value
Metal:						
More than 99.99% silicon:						
Canada	--	XX	--	2	XX	\$4,380
China	(4)	XX	\$35,700	35	XX	333,000
Denmark	(4)	XX	55,000	1	XX	280,000
Finland	--	XX	--	9	XX	29,100
Germany	16	XX	3,280,000	73	XX	9,060,000
Italy	28	XX	1,410,000	90	XX	3,540,000
Japan	10	XX	539,000	103	XX	2,800,000
Korea, Republic of	31	XX	173,000	37	XX	301,000
Taiwan	(4)	XX	16,000	(4)	XX	16,000
Spain	--	XX	--	2	XX	6,120
Other (France)	--	XX	--	(4)	XX	2,210
Total	85	85 ^e	5,510,000	351	351 ^e	16,400,000
99.00% - 99.99% silicon:						
Argentina	--	--	--	120	119	115,000
Australia	226	224	245,000	2,110	1,840 ³	2,210,000
Austria	--	--	--	20	20	19,100
Brazil	3,220	3,200	3,780,000	13,800	13,700	16,800,000
Canada	1,460	1,450	1,740,000	3,680	3,640	4,380,000
China	5	5	2,700	125	124	109,000
Korea, Republic of	120	119	96,000	120	119	96,000
Kazakhstan	--	--	--	300	297	311,000
Norway	664	605 ³	1,150,000	1,670	1,600	2,980,000
South Africa	3,120	3,090	3,330,000	8,780	8,710	9,610,000
Other (3 countries)	5	(4) ³	7,110	35	10	95,100
Total	8,820	8,700	10,300,000	30,700	30,200	36,700,000
Other silicon:						
Australia	--	--	--	160	138	152,000
Brazil	45	45	50,400	585	576	593,000
Canada	19	19	22,300	883	860	660,000
China	366	361	314,000	1,640	1,610	1,430,000
Korea, Republic of	60	59	40,200	140	137	95,000
Norway	40	40	38,100	1,090	1,080	1,100,000
South Africa	1,350	1,330	1,290,000	3,370	3,310	3,220,000
Ukraine	34	33	31,700	306	301	286,000
United Arab Emirates	--	--	--	319	314	264,000
United Kingdom	--	--	--	261	251	262,000
Other (8 countries)	117	80	192,000	337	270	425,000
Total	2,040	1,970	1,980,000	9,080	8,850	8,490,000
Total silicon metal	10,900	10,700	17,800,000	40,200	39,400	61,600,000

^eEstimated. XX Not applicable. -- Zero.

¹Presentation of monthly data is based on the year-to-date quantities (gross weight) of the top 10 countries.

²Data are rounded to no more than three significant digits; may not add to totals shown.

³All or part of these data have been referred to the U.S. Census Bureau for verification.

⁴Less than 1/2 unit.

Source: U.S. Census Bureau.